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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,982	09/30/2005	Heiko Doerr	095309.56052US	4316

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EXAMINER
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WILLIAMS, THOMAS J

ART UNIT	PAPER NUMBER
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3683

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/527,982	<b>Applicant(s)</b> DOERR ET AL.	
	<b>Examiner</b> Thomas J. Williams	<b>Art Unit</b> 3683	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-44 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-37 and 44 is/are rejected.
- 7) ☒ Claim(s) 38-43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/21/05;10/4/06</u> . | 6) <input type="checkbox"/> Other: ____  |

### **DETAILED ACTION**

1. Acknowledgment is made in the receipt of the information disclosure statements filed March 21, 2005 and October 4, 2006, the oath filed September 30, 2005, the preliminary amendment filed March 21, 2005, and the priority papers filed March 21, 2005.

#### ***Specification***

2. The disclosure is objected to because of the following informalities: paragraph 8 line 8, the phrase "prupose" should be replaced with "purpose".

Appropriate correction is required.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Objections***

4. Claim 30 is objected to because of the following informalities: line 1, the phrase "a" should be deleted. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 23-37 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,021,375 to Urai et al. in view of US 5,278,764 to Iizuka et al.

Re-claims 23 and 44, Urai et al. teach a method and apparatus for automatic braking, comprising: unit 16 determines a driving situation of the first vehicle (subject vehicle), based upon an actual acceleration ( $a_b$ ) of the first vehicle and a predefined emergency braking deceleration (see figure 6, such as 0.2 G, 0.4 G etc.); a driver warning is triggered if at least one predefined warning condition is fulfilled (such as a negative response to step 104); an automatic braking process is activated in response to the situation of the first vehicle (such as closing in on a preceding vehicle); the warning condition includes a predefined target safety distance (such as  $L_s$ ) and a predefined target relative speed between the first and second vehicle (see formula associated with determining  $L_s$ ), the target values are to be attained after the automatic braking process is completed; an actual acceleration of the first vehicle is determined, an actual current relative acceleration between the first and second vehicles is also determined (see determination of  $a_b$  and  $a_1$  in the formulas). Urai et al. teach a driver warning and triggering of the automatic braking as occurring simultaneously, rather than delaying the triggering of the automatic braking until a time period after the driver warning is initiated.

Ito et al. teach an automatic braking apparatus, wherein the automatic braking operation is commenced, or triggered, until expiration of a predefined time period after the driver warning

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has been triggered, see figures 2 and 3 ( $t_0$  a visual alarm is triggered, after which a slight brake pressure is applied, see  $\beta_1$  in figure 3, at  $t_1$  the automatic braking is triggered). This provides the occupants time to ready themselves for rapid deceleration, see column 4 lines 9-20. It would have been obvious to one of ordinary skill in the art to have provided the system of Urai et al. with this time lapse as taught by Ito et al., thus providing the occupants adequate time to assume a defensive posture, as taught in Ito et al.

Re-claim 24, Urai et al. teach the driver warning as including both visual and acoustic signals.

Re-claims 25, 26, 28, 34, 36 and 37, Urai et al. fails to teach a driver warning perceived haptically or at least two warning stages. Ito et al. teach at least two warning signals triggered chronologically, the first is a visual warning triggered at  $t_0$ , the second is a slight brake pressure application  $\beta_1$  (which is perceived haptically) triggered after  $t_0$ ; in addition the automatic braking process is commenced at  $t_1$  after the warning period  $t_0-t_0'$  has expired; the time period is predefined as  $t_0-t_0'$ . It would have been obvious to one of ordinary skill in the art to have provided the system of Urai et al. with a plurality of driver warnings as taught by Ito et al., thus ensuring that the occupants would be aware of the impending actuation of the automatic brake.

Re-claim 27, 29-31, see figure 7, which illustrates various predefined decelerations and target relative speeds; a target relative speed of approximately zero would indicated a stop condition of the first vehicle, as such the automatic brake operation is completed.

Re-claim 32, figure 6 indicates a situation wherein the automatic braking is not triggered if the relative distance exceeds a predefined value.

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Re-claim 33, it is expected that the process illustrated in figure 6 is a continuous loop, such that the automatic braking process is updated as the relative distance increases between the vehicles, whereupon at some point the process is not triggered, since the relative distance would exceed the predefined value.

Re-claim 35, Urai et al. teach the automatic braking process is aborted if the target relative speed and target relative distances are attained, as determined by the steps followed in figure 6.

#### ***Allowable Subject Matter***

8. Claims 38-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sugimoto et al. and Isaji et al. each teach an automatic braking process.

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is 571-272-7128. The examiner can normally be reached on Wednesday-Friday from 6:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi, can be reached at 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-6584.

TJW

August 23, 2007

**THOMAS J. WILLIAMS**  
**PRIMARY EXAMINER**

Thomas Williams  
AU 3683  
8-23-07